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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,550

11/24/2003

Steve James Ungstad

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AGILENT TECHNOLOGIES, INC.

Legal Department, DL429

Intellectual Property Administration

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EXAMINER

RIZK, SAMIR WADIE

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/718,550

Applicant(s)

UNGSTAD, STEVE JAMES

Examiner

Sam Rizk

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/24/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTIONS**

- Claims 1-20 have been submitted for examination
- Claims 1-20 have been rejected

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka.

US patent no. 5867509 (Hereinafter Tanaka).

2. In regard to claim 1, Onvural teaches:

- A method comprising:
- updating a cyclic redundancy checks (CRC) sum calculated from a data stream of CRC protected packets by adding new data while subtracting an effect of old data; and checking the updated CRC sum for a predetermined result.

(Note: Fig. 1 and col. 7, lines (1-55) in Tanaka)

3. In regard to claim 2, Onvural teaches:

- The method of claim 1, further comprising:
- initializing a m-length buffer and an n-length accumulator to calculate the CRC sum; and storing the data stream in the m-length buffer.

(Note: col. 9, lines (1-65) in Tanaka)

4. In regard to claim 3, Onvural teaches:

- The method of claim 2, wherein adding the new data comprises performing an exclusive-or operation between the accumulator and a predetermined feedback CRC polynomial.

(Note: Fig. 1, reference sign (6) in Tanaka)

5. In regard to claim 4, Tanaka teaches:

- The method of claim 2, wherein subtracting the effect of old data comprises performing an exclusive-or operation between the accumulator and a predetermined CRC polynomial extrapolated to the m-th power corresponding to the most significant bit of the m-length buffer.

(Note: col. 13, lines (1-25) in Tanaka)

6. In regard to claim 5, Tanaka teaches:

- The method of claim 2, wherein the m-length buffer and the n-length accumulator are initialized only once.

(Note: col. 5, lines (6-7) in Tanaka)

7. In regard to claim 6, Tanaka teaches:

- A network receiver adapted to carry out the method of claim 2.

(See abstract in Tanaka)

8. In regard to claim 7, Tanaka teaches:

- A method comprising:
- initializing a m-length buffer and an n-length accumulator;

(Note: col. 5, lines (6-7) in Tanaka)

- storing a m-length data stream in the buffer;

(Note: col. 9, lines (1-65) in Tanaka)

- accumulating a remainder of m-length data by bits in an n-length accumulator;

(Note: col. 13, lines (1-25) in Tanaka)

- combining a predetermined n-length CRC polynomial extrapolated to the m-th power with the n-length accumulator;

(Note: col. 13, lines (1-25) in Tanaka)

- combining a predetermined n-length CRC polynomial with the n-length accumulator; and

(Note: col. 13, lines (1-25) in Tanaka)

- checking the accumulator for a predetermined result.

(Note: FIG. 1, reference sign (7) in Tanaka)

9. In regard to claim 8, Tanaka teaches:

- The method of claim 7, wherein the combining the n-length CRC polynomial includes performing the exclusive-or operation on the n-length accumulator and the n-length CRC polynomial corresponding to active bits in the predetermined n-length CRC polynomial; and
- wherein the combining the n-length CRC polynomial extrapolated to the m-th power with the n-length accumulator includes performing the

exclusive-or operation between the n-length accumulator and the n-length CRC polynomial extrapolated to the m-th bit.

(Note: col. 13, lines (1-25) in Tanaka)

10. Claim 9 is rejected for the same reasons as per claim 6.
11. Claim 10 is rejected for the same reasons as per claim 5.
12. In regard to claim 11, Tanaka teaches:
  - A system comprising:
  - calculation means for updating a CRC sum computed from an accumulated data stream having data blocks protected by CRC by adding new data and subtracting out old data; and
  - validation means for comparing the updated CRC sum to a predetermined result to identify a complete data block protected by CRC.

(Note: Figures 1 and 5 in Tanaka)

13. In regard to claim 12, Tanaka teaches:
  - The system of claim 11, wherein the calculation means further comprises:
  - feedback means for feeding data back into the accumulator according to a predetermined CRC polynomial of length n; and
  - subtraction means for subtracting the effect of old data from the means for accumulating.

(Note: Figure 1, references "READ OUT PREVIOUS VALUE" and "WRITE BACK CURRENT VALUE" in Tanaka)

14. Claim 13 is rejected for the same reasons as per claim 4.

15. In regard to claim 14, Tanaka teaches:

- A receiver to scan for data packets protected by CRC comprising:  
(Figure 1 in Tanaka)
- a m-length memory to store a data stream;  
(Figure 1 and 5, reference sign (3) in Tanaka)
- an n-length accumulator to accumulate a CRC sum from the data;  
(Figure 1 and 5, reference sign (3) in Tanaka)
- a remainder circuit to feedback the data leaving the accumulator to the accumulator based on a predetermined CRC polynomial;  
(Figure 2 in Tanaka)
- a subtraction circuit to remove the effect of data leaving the memory from the accumulator; and  
(Figure 1 in Tanaka)
- a CRC sum validation circuit to check the CRC sum for a valid result to indicate that the data packet protected by the CRC is located.  
(Figure 1, reference sign(7) in Tanaka)

16. Claim 15 is rejected for the same reasons as per claim 5.

17. In regard to claim 16, Tanaka teaches:

- The receiver of claim 14, wherein the memory is a buffer.

(Note: col. 7, line 65 in Tanaka)

18. In regard to claim 17, Tanaka teaches:

- The receiver of claim 14, wherein the memory is tangible media capable of being read by a machine.

(Note: col. 7, line 4 in Tanaka)

19. Claim 18 is rejected for the same reasons as per claim 4.

20. In regard to claim 19, Tanaka teaches:

- The receiver of claim 18, wherein the data is input into the memory and the accumulator by bits.

(Figure 1, reference sin (1) in Tanaka)

21. In regard to claim 20, Tanaka teaches:

- The receiver of claim 18, wherein the data is input into the memory and the accumulator by bytes.

(Figure 1, reference sign (1) in Tanaka)

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Onvural et al US publication no. 2002/0129315 teaches Packet based ATM CRC-32 calculator.
- Christensen et al US patent no. 5951707 teaches method of partitioning CRC calculation for a low-cost ATM adapter.



- Condon US patent no. 5844923 teaches fast framing of nude ATM by header error check.
- Dravida et al. US patent no. 5251215 teaches modifying check codes in data packet transmission.
- Hao et al. US patent no. 6028844 teaches ATM receiver.
- Burnett et al. US publication no. 2004/0085999 teaches method and apparatus for selective segmentation and reassembly of asynchronous transfer mode streams.
- Burnett US publication no. 2004/0066748 teaches method and apparatus for testing a data network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

ART UNIT 2133

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